

**A LONG-RANGE PLAN FOR THE PROVISION
OF OUTDOOR WATER-RELATED RECREATIONAL OPPORTUNITIES
IN THE CHARLESTON HARBOR PROJECT AREA**

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Introduction

In a workshop in September 1993, the Charleston Harbor Project established the following public utilization goals for the Charleston Harbor estuarine system:

1. to document present levels of public utilization of the Charleston Harbor estuary and its resources;
2. to enhance cultural, recreational, economic and public use of the estuary;
3. to increase public awareness and involvement in management of the Charleston Harbor system.

Problem Statement

As the population of Berkeley, Charleston and Dorchester counties continues to grow -- increasing from 506,875 in 1990 to an estimated 776,500 by the year 2010 (an increase of 53%) - the availability of outdoor recreational opportunities must be addressed now to adequately accommodate the needs of area residents in the future. Additionally, the burden of providing an adequate level of recreational opportunities for the area is heightened by the expected increase in tourists' demands.

Many of the recreational opportunities in the trident area are based on its abundant natural resources, particularly the marine, estuarine, riverine and lacustrine resources. Public access to these water-related resources has often been taken for granted and assumed available in perpetuity. However, as the pressure of population growth has increased, public access has been adversely impacted, possibly decreasing as a result of the gradual change from rural to suburban land ownership. Accordingly, the process to rectify possible imbalances and provide adequate access to public waters requires long-range planning (Sargent, et al 1991). The following steps are suggested for such long-range planning: (1) conduct an inventory of public access; (2) develop public goals for access to public lands and waters with a survey; (3) and develop a long-range plan to achieve public access in accordance with those goals and with the financial resources of the community.

The inventory of sites and facilities providing outdoor, water-based recreation in the Charleston Harbor area was completed in June 1994. To accomplish the second step cited above, a needs assessment of outdoor recreation was conducted. In carrying out the needs assessment, information was gleaned from several earlier studies on recreation development in the

area. By and large, the needs assessment was viewed as an important step in the process to achieve the public utilization goals of the Charleston Harbor Project. First, it addressed goal one by documenting the present level of public utilization of water resources for recreational purposes. Second, it established an agenda for fulfilling goal two, which seeks to enhance the cultural, recreational and economic use of the estuary. Finally, in conjunction with the previous inventory, a needs assessment provided a means of increasing public awareness and involvement in the management of the Charleston Harbor system by developing a database of information on recreational usage.

As designed, the needs assessment primarily addressed the use of water-related recreational resources in the watershed of the Charleston Harbor estuary. Other dimensions of public utilization, such as cultural and economic uses, were addressed indirectly. (Separate analyses are recommended to provide in-depth information regarding those dimensions.)

To eventually realize public utilization goals mentioned earlier, the third step -- a long-range plan -- is needed to guide all parties involved in managing the Charleston Harbor Estuary. This long-range plan could rely on the information provided in both the inventory and needs assessment to point out sites for the development of specific recreational activities. It is obvious from the inventory and needs assessment that certain sections of the Charleston Harbor Project Area have an adequate supply of sites and facilities which provide amenities for water-related recreational activities. Yet, many sections of the Project Area have few, if any, amenities that provide or facilitate such activities. A long-range plan for outdoor, water-related recreation would furnish a means to address the disparity found in the provision of recreational opportunities within the Project area.

The attempt to develop this long-range plan should include the input and assistance of appropriate officials from all local governments in the Charleston Harbor Area. Ultimately, the responsibility of implementing a regional recreation plan falls upon those local governments.

Methodology

The methodology to develop the long-range plan was derived from the process outlined by Sargent, et al (1991). Specifically, this process includes the following steps:

1. Hold an information meeting with elected board, planning commission, rural environmental planner, and citizens.

- a. Discuss objectives, procedures, assistance available, costs, and schedule.
 - b. Exchange letters of agreement.
2. Appoint members to a planning committee.
 - a. Form subcommittees around inventory subjects
 - b. Include representatives of all groups with an interest in the Plan.
3. Discover public goals.
 - a. Draft and deliver goals questionnaire; collect questionnaires.
 - b. Tabulate results of goals survey and distribute.
4. Inventory natural, cultural, human resources.
 - a. Describe resources.
 - b. Obtain data, guidance, recommendations from technical team.
 - c. Conduct field trips for direct assessment.
 - d. Present and discuss inventory reports at public meetings. Incorporate recommendations.
5. Draft plan. Review, publish, and distribute.
 - a. Assemble draft of findings, goals, recommendations, priorities, implementation methods.
 - b. Organize in chapters, based on inventory subjects (or goals, or geographic areas).
 - c. Distribute to all households.

Several tasks outlined above are completed, while others remain undone at this point. The staff of the Charleston Harbor Project has held information meetings and created a recreation advisory committee. Additionally, an inventory and a needs assessment of outdoor, water-related recreational opportunities in the area were completed, as discussed earlier. Before drafting a long-range plan, however, the discovery of public goals is necessary. This task requires surveying area residents, as well as recreation providers, to gather the information.

In fact, providers of recreational opportunities were surveyed in developing the inventory of recreational sites and facilities in the CHP area. The following procedure was used in conducting the inventory:

1. determine the number of public providers of recreational facilities and services;
2. survey these providers by requesting information on all water-based recreational facilities and services supplied;
3. compile a list of facilities and services from all available sources of information; and
4. compile a database of all water-based recreational opportunities in the Charleston Harbor Project area.

More, the needs assessment involved a preliminary survey of area residents regarding outdoor, water-related recreational opportunities. The procedure followed in the needs assessment was:

1. review existing sources of information which assess the future needs for public access to outdoor, water-based recreational opportunities in the Charleston Harbor Project area.
2. develop an appropriate survey instrument to address specific questions not answered in #1 above.
3. administer the survey instrument and enter the responses into a database for analysis.
4. to prepare a report of the findings from the secondary data search and the survey.

In administering the survey questionnaire for the needs assessment, several minor problems with the instrument were identified. These problems were corrected in preparation for drafting a long-range plan, and the questionnaire was incorporated into this project. The following procedure was proposed for drafting a long-range plan:

1. using the findings of the inventory and the needs assessment, develop appropriate survey instruments to administer to the providers of recreational opportunities and local residents to determine, among other things, the level of usage of water resources in the area, the availability of public access to the local water resources for various activities, the sites and facilities utilized nearby for various activities, the distance traveled to experience particular water-related recreational activities, and perceptions of local water-related recreational opportunities;
2. develop guidelines for providing public access to various water-related recreational activities in the Charleston Harbor Project Area based on the results of the surveys above and the previous inventory and needs assessment; and
3. in consultation with local governments in the area, propose target areas for the development of specific sites and facilities to provide outdoor water-related recreation.

The Charleston Harbor Project

Specifically, this inventory and needs assessment of outdoor recreation examined the water-related activities and facilities within the Charleston Harbor Project area, which is located within Berkeley, Charleston and Dorchester counties. A brief description of each county is provided as an overview of the area, particularly its setting for water-based recreational opportunities.

In 1990 the number of people residing in South Carolina totaled 3.49 million, with approximately 506,875 (14.5%) living in the Berkeley-Charleston-Dorchester (BCD) region. The region has a total land area of 2592 square miles. (See Table I.) The area of study for the Charleston Harbor Project covers just over 1900 square miles.

TABLE I.
POPULATION, LAND AREA, AND DENSITY OF THE COUNTIES
IN THE BCD REGION, 1990
 (WITH STATE RANK)

County	Population	Land Area (sq. mi.)	Density (sq. mi)	Water Area (sq. mi.)
Berkeley (4)	128,776 (9)	1099.55 (3)	117.1 (15)	129.68
Charleston (1)	295,039 (2)	917.42 (7)	321.6 (3)	439.72
Dorchester (43)	83,060 (16)	574.79 (27)	144.5 (11)	1.96
TOTAL	506,875	2,591.76	583.2	571.36
STATE	3,486,703	30,111.13	115.8	1896.00

Source: South Carolina Statistical Abstract.

Charleston County is the State's most urban county, having 88% (259,697) of its residents living in an area defined as urban according to the U.S. Census definition.¹ Similarly, Berkeley and Dorchester are significantly more urban than rural with 65.1% and 67.4% of their populations classified as urban, respectively. (See Table II.)

TABLE II.
URBAN AND RURAL RESIDENCE OF BCD REGION
1970, 1980, AND 1990

County	1970		1980		1990	
	Urban	Rural	Urban	Rural	Urban	Rural
Berkeley	25,745	30,454	55,633	39,094	83,896	44,880
Chrleston	202,654	44,996	242,477	34,497	259,697	35,342
Dorchster	3,839	28,437	34,161	24,600	55,970	27,090
TOTAL	232,238	103,887	332,271	98,191	399,563	107,312

Source: South Carolina Statistical Abstract.

Experiencing tremendous growth since 1970, Berkeley and Dorchester have become urban counties only during the past 20 years. Since 1980, they are the second and third fastest growing counties in the State. (See Table III.)

TABLE III.
POPULATION OF BERKELEY, CHARLESTON AND DORCHESTER COUNTIES
1970 - 1990

County Rank	1970	1980	% Change 1970-80	1990	% Change 1980-90	Sta. % Change
Berkeley	56,199	94,727	68.6	128,776	35.9	3
Charleston	247,650	276,974	11.8	295,039	6.5	24
Dorchester	32,276	58,761	82.1	83,060	41.4	2
TOTAL	336,125	430,462	21.9	506,875	15.1	
STATE	2,590,713	3,121,820	20.5	3,486,703	11.7	

Source: South Carolina Statistical Abstract.

The remarkable growth in the region is expected to continue into the next century, reaching a total population of 776,500 by the year 2010. (See Table IV.)

TABLE IV.
POPULATION PROJECTIONS FOR COUNTIES IN THE BCD REGION
1970 - 1990

County	1990	1995	2000	2005	2010
Berkeley	128,776	152,500	180,000	212,600	252,800
Charleston	295,039	312,000	320,600	329,800	339,400
Dorchester	83,060	100,500	122,700	151,000	184,300
TOTAL	506,875	565,000	623,300	693,400	776,500
STATE	3,486,703	3,741,700	3,976,800	4,218,000	4,486,700

Source: South Carolina Statistical Abstract.

Characteristics and Trends

The percentage of residents 18 years of age or under is higher in Berkeley and Dorchester than the State's overall percentage. Berkeley ranks highest in the State regarding this statistic. Correspondingly, Berkeley and Dorchester have low percentages of older residents, ranking 46th and 45th in the State, respectively, in the percentage of the population 65 years of age or older. Finally, of the three counties, Charleston has the highest percentage of minority residents with 36.4 percent. (See Table V.)

The rate of unemployment for each of the three counties is below the State's total rate of unemployment. (See Table VI.)

However, the percentage of residents below the poverty level for each county is greater than 11 percent, with Charleston County the highest having 17.3 percent of its residents below the poverty level and exceeding the State's overall percentage of residents below the poverty level at 15.4 percent.² (See Table VII.)

TABLE V.

**SELECTED CHARACTERISTICS FOR COUNTIES IN THE BCD REGION
APRIL 1990**

County STATE	% OF POP. UNDER 18	STATE RANK	% OF POP. 65 OR OLDER	STATE RANK	% MINORITY POPULATION	RANK
Berkeley	32.4	1	5.7	46	27.1	34
Charleston	25.0	37	10.1	41	36.4	24
Dorchester	29.6	11	7.4	45	25.0	36
STATE	26.4		11.4		30.9	

Source: South Carolina Statistical Abstract.

TABLE VI.

**LABOR FORCE AND UNEMPLOYMENT DATA FOR COUNTIES IN THE BCD REGION
1992 ANNUAL AVERAGE**

County STATE	LABOR FORCE	STATE RANK	UNEMPLOYED NUMBER	STATE RANK	UNEMPLOYED RATE	RANK
Berkeley	57,710	11	3220	12	5.6	36
Charleston	146,240	3	8650	2	5.9	35
Dorchester	40,060	14	2060	18	5.1	40
STATE	1,772,000		111,000		6.2	

Source: South Carolina Statistical Abstract.

TABLE VII.

**POPULATION, MEDIAN FAMILY INCOME, PER CAPITA INCOME
AND PERSONS WITH INCOME BELOW THE POVERTY LEVEL, 1989**

County	Population*	Median Family Inc.	Per Capita Income	Number Below Poverty Level	Pct. Below
Berkeley	127,471	\$30,913	\$10,942	15,672	12.3
Charleston	279,595	\$31,374	\$13,068	48,508	17.3
Dorchester	81,126	\$34,209	\$11,884	9,360	11.5
STATE	3,368,125	\$30,797	\$11,897	517,793	15.4

Source: South Carolina Statistical Abstract.

* Poverty status is determined for all persons except inmates of institutions, persons in military group quarters and in college dormitories, and unrelated individuals under age 15.

Government

Within the tri-county region, there are 22 incorporated municipalities, with six having 10,000 or more residents (Charleston, 80,414; North Charleston, 70,218; Mount Pleasant, 30,108; Goose Creek, 24,692; Summerville, 22,519; and, Hanahan, 13,176).³ Additionally, the counties are served by their respective county councils and the BCD Council of Governments (COG).

Berkeley

Berkeley is the third largest county in South Carolina having nearly 1100 square miles of land area. It has three major urban communities located within the boundary of Charleston Harbor Project: Goose Creek, Hanahan, and Moncks Corner. Additionally, the communities of Bonneau and St. Stephen border the CHP study area. A part of North Charleston is located within the county.

Each of these communities is served by a recreation department or program, as listed by the South Carolina Department of Parks, Recreation and Tourism. The Berkeley County Planning Office and the Santee Cooper Public Service Authority are providers of a limited range of recreational opportunities. The providers of recreational facilities and services in the county are as follows:

Bonneau Recreation Department

Berkeley County Planning

Goose Creek Parks & Playground Commission

Hanahan Recreation Department

Moncks Corner Recreation Department

North Charleston Recreation and Parks Department

St. Stephen, Town of

Santee Cooper (PSA)

Charleston

Of the three counties, only Charleston has oceanfront beaches, with 91 miles fronting the Atlantic Ocean along the barrier islands that parallel its coastline. Some of these barrier islands are the haven for some of the most exclusive

resort and residential communities in the country, including the Isle of Palms, Kiawah, Seabrook, and Dewees Islands. Others, like Sullivans's Island and Folly Beach are established, middle-class residential communities. Public access to the beach is provided on all, except Seabrook and Dewees.

In addition, Charleston is a major port for the southeastern region of the United States. Prior to the closure of many U.S. Naval Base facilities in 1994, the Charleston port served as a major naval installation.

The major urban communities in the county include the cities of Charleston and North Charleston and the Town of Mount Pleasant. Public service districts serve both the heavily-populated suburban areas "West of the Ashley" (including James Island and St. Andrews) and in the northern end (Ladson), and the lesser populated areas in rural Charleston County (Edisto Island). There are 12 providers of recreational facilities and services in the county, and all are located within the study area of the Charleston Harbor Project:

Charleston County Park & Recreation Commission

Charleston, City of -- Department of Recreation

Cooper River Park & Playground Commission

Folly Beach, City of

Hollywood, Town of

Isle of Palms Recreation Department

Meggett, Town of

Mount Pleasant Recreation Department

North Charleston Recreation & Parks Department

Ravenel, Town of

St. Andrew's Parish Parks and Playground

Sullivan's Island, Town of

Dorchester

Summerville is the major urban community in Dorchester County. There are four providers of recreational facilities and services in the county. However, only Summerville is located within the study area of the Charleston Harbor Project. Part of North Charleston is located in the county, also. The providers include

Dorchester County

Harleyville Recreation Center

St. George, Town of

Summerville, Town of

Water Resources for Recreational Activities

There are over 130 bodies of water listed for the CHP area, with more than two-thirds located in Charleston County. The major bodies of water within the study area include: Ashley River, Cooper River, East Branch Cooper River, West Branch Cooper River, Lake Moultrie, Stono River, North Edisto River, Wando River, Charleston Harbor, and the Atlantic Ocean.

Berkeley County -- 40 Listings

Wando River *
 Ralstons Creek
 Beresford Creek
 Martin's Creek
 Cooper River *
 Flag Creek
 Grove Creek
 Freshing Lead Creek

East Branch Cooper River *
 French Quarter Creek
 Quinby Creek
 Huger Creek
 Negro Field Branch
 Nicholson Creek
 Fox Gully Branch
 Cook's Creek
 Kutz Creek
 West Branch Cooper River *
 Mepkin Creek
 Wadboo Swamp
 Stewart Creek
 Wadboo Creek
 Tailrace Canal
 Lake Moultrie *
 Lake Marion *
 Diversion Canal
 Cypress Gardens Canal
 Back River *
 Chicken Creek
 Crane Pond
 Long Field Pond

Prioleau Creek
 Foster Creek
 Goose Creek Reservoir *
 Goose Creek
 Cypress Swamp and all branches (Berkeley) *
 Black Creek
 Canton Creek
 Partridge Creek
 Thompson Creek

Charleston County -- 92 Listings

Atlantic Ocean *
 Copahee Sound
 Bullyard Sound
 Hamlin Sound
 Grays Bay Sound
 Dewees Inlet
 Long Creek
 Seven Reaches Creek
 AIWW (betw. Goat Is. and Isle of Palms)
 Breach Inlet Estuary
 Hamlin Creek
 Swinton Creek
 Inlet Creek
 Conch Creek
 AIWW (from Breach Inlet to Ben Sawyer Bridge)

Charleston Harbor *
 The Cove
 Shem Creek
 Horse Creek
 Molasses Creek
 Wando River *
 Hobcaw Creek
 Rathall Creek
 Dutchman Creek
 Horlbeck Creek
 Boone Hall Creek
 Wagner Creek
 Toomer Creek
 Darrell Creek
 Alston Creek
 Guerin Creek
 South Edisto River
 Adams Run Creek
 North Edisto River *
 Toogoodoo Creek
 Lower Toogoodoo Creek
 Tom Point Creek
 Dawhoo River

Whooping Island Creek
North Creek
AIWW (on Edisto Is.)
Russel Creek
Steamboat Creek
Wadmalaw River
Gibson Creek
Wadmalaw Sound
New Cut
Church Creek
Rantowles Creek (Charleston)
Wallace Creek
Log Bridge Creek
Mellchamp Creek
Middle Creek
Caw Caw Swamp
Caddin Bridge Swamp
Leadenwah Creek
Adams Creek
Fickling Creek
Bohicket Creek
Store Creek
Ocella Creek
Frampton Inlet
Captain Sams Inlet
Captain Sams Creek
Privateer Creek
Haulover Creek

Kiawah River *
Cinder Creek
Bass Creek
Chaplin Creek
Stono River *
Abbapoola Creek
Folly River *
Green Creek
Cole Creek
King Flats Creek
Robbins Creek
Long Island River
Sister Creeks
Lighthouse Creek
Secessionville Creek
Sol Legare Creek
Clark Sound
Oak Island Creek
Ashley River *
James Island Creek
Wappoo Creek/Elliot Cut
Orangegrove Creek
Bull Creek
Church Creek

Long Creek
 Keivling Creek
 Macbeth Creek
 Cooper River *
 Noisette Creek

Dorchester -- 12 Listings

Cypress Swamp and all branches (Dorchester)*
 Captains Creek
 Rumphs Hill Creek
 Negro Branch
 Ashley River and all branches (Dorchester)*
 Dorchester Creek
 Coosaw Creek
 Eagle Creek
 Rantowles Creek (Dorchester)*
 Fishburne Creek
 Bear Swamp/Horse Savanna
 Edisto River (Dorchester)*

(The bodies of water marked by the asterisk [*] receive inflow from the bodies of water listed immediately following them. This list is not considered comprehensive; however, it contains the bodies of water readily identified on maps used by the Charleston Harbor Project and the S.C. Department of Highways & Public Transportation.)

Inventory of Sites and Facilities

A thorough inventory of outdoor recreation amenities and activities involving water resources in the region is the first step in identifying the strengths and weaknesses of public access and utilization programs. In the spring of 1994, a list of providers of outdoor recreation in the BCD region was compiled with the assistance of the South Carolina Department of Parks, Recreation and Tourism (PRT) and the South Carolina Recreation and Park Association. A total of 24 providers were identified. (See pages 11-12.)

A letter was sent to each provider listed asking them to supply information regarding the provision of outdoor, water-related recreational facilities and services in their

communities. (See Appendix, Item 1-A and Item 1-B.) A second letter was sent two weeks later. Only 10 of the 24 responded. (The towns of St. George and Harleyville in Dorchester County were contacted despite falling outside the boundary that delineates the area of study for the Charleston Harbor Project.) In addition, the South Carolina Wildlife and Marine Resources provided information on the public boat landings in the tri-county region.

Other steps in the process for developing this inventory included: (1) locating and reviewing existing documents with information on sites and facilities for boating and other outdoor water-related recreation in the area; (2) developing a list of these sites and facilities in the area; and (3) contacting by telephone all sites and facilities identified above to verify findings. By mid-summer, a preliminary inventory had been compiled from all identified sources. The inventory included 194 listings by September 30, 1994.

The inventory includes information for several variables which provide a description of each amenity and activity listed. This background information is highly valuable in determining the need for new development in an area or specific improvements to existing facilities. Furthermore, this information will facilitate the production of a promotional brochure which has been proposed. The inventory data is stored in a dBase IV file. (The structure of the database listing each variable is shown in Appendix 2-A.) As new information is received, the file is revised and updated. In addition, sites and facilities that have a specific address or location have been positioned on 3' x 3.5' map of the Charleston Harbor Project area. (Special events, tours, cruises and other similar activities were not indicated on the map.)

The inventory contains among other things: 50 boat ramps, 33 city parks, 23 golf courses, 18 marinas, 14 fishing camps, 12 special events, six state parks, five county parks, five campgrounds, four house and gardens, four walking tours, three gardens, two forest preserves, two state agencies, two boat tours, and one magnificent old oak tree. (See complete list in Appendix 2-B and Appendix 2-C.)

Further analysis indicates that 125 of the listings are located in Charleston County, 53 in Berkeley, and 15 in Dorchester. One listing, the Francis Marion National Forest, is located in both Berkeley and Charleston counties.

There are 117 listings operated by a public entity, and 73 listings are commercially operated. Three could not be determined.

Most of the listings are found along several major bodies of water. There are 18 listings on the Ashley River, 16 on Lake

Moultrie, 14 on the Atlantic Ocean, eight on the Cooper River, seven around Charleston Harbor, seven on Lake Marion, seven on the Stono River, five on the Edisto River, four each on the Folly and Wando Rivers, and three each on Bohicket Creek, Boone Hall Creek, Santee River, and Tailrace Canal.

Regarding fees, 84 listings are fee-operated; 57 do not charge a fee, and 53 are not determinable. Furthermore, 49 listings provide rental equipment. Though 26 listing provide overnight accommodations, 103 do not, and the status of 65 are unknown.

There are 134 listings open year-round. Fishing is allowed at 43 listings; 83 do not permit fishing at the site, and 68 could not be determined. Lastly, wildlife observation occurs at 25 listings; 91 do not have wildlife observation, and 78 have not been determined.

Needs Assessment: Previous Studies

Another important task in developing the long-range plan is assessing the need for enhancing public utilization of all water resources in the CHP area. To conduct this needs assessment, several earlier studies were analyzed. A summary of each follows.

Berkeley, Charleston, Dorchester RORP

The Berkeley-Charleston-Dorchester Council of Governments issued in March 1980 its "Regional Outdoor Recreation Plan" (RORP) as a part of the State Comprehensive Outdoor Recreation Plan (SCORP). Primarily, the report addressed the need for certain types of facilities to serve various localities across the BCD region. The types of facilities needed by any locale was determined by a hierarchy of facilities which was based on various sizes of development, including local mini-parks, neighborhood parks, playing fields, recreation complexes, city-wide parks, district parks. The need for any one of these types of facilities was established by standards derived from various factors in a community: population served, location, land requirement, service area, and amenities available. (Single-purpose facilities, such as boat landings, were not addressed by the standards, and were not included in the hierarchy.)

Though the report was extremely informative by providing an overview of existing facilities and future requirements for facilities in the BCD region, there was little discussion or

information on specific needs for outdoor, water-based recreation, such as waterfront parks, creek and river trails, and fishing and boating areas. In its brief review of water-based recreation in the region, the following points were made which are relevant today:

1) Water is the region's greatest natural asset, as well as its greatest potential for recreation development. Charleston's coastal beaches and the Santee-Cooper Lakes form a regional complex of extensive recreation opportunities. Existing facilities [in 1980] barely tapped the potential.

2) The demands are heavy. There is still a great deal of coastline left restricted and inaccessible to public use. The Charleston beaches are burdened not only with county residents, but with visitors from inland South Carolina and other states. The demand is far greater than the supply of facilities available.

3) At present, Charleston County seems deadlocked in terms of shorefront acquisition, but when one considers the pressures, it is important that steps be taken to acquire it when possible.

4) Berkeley County's lakefront is obviously taken to private uses. Having nearly 52.5 miles of waterfront along Lake Moultrie and 25 miles along Lake Marion, it is significant that there are no supervised public swimming areas. Private cottages, commercial fish camps, and private recreation areas have taken over the lakeside. There are several commercial beaches near Moncks Corner -- Lion's Beach and White Point Beach, a commercial establishment with cottages.

5) The region abounds with navigable waterways. The Santee-Cooper Lakes and the Ashley, Cooper, Edisto, Stono and Wando Rivers make boating possible from the river mouths far back into tributary creeks, tidal marshes and forested swamps. They afford passage through a spectrum of ecological settings.

6) There are numerous boat landings in the region, primarily in Charleston and Berkeley Counties. For the most part they are evenly distributed along the principal rivers and creeks. Amenities, such as picnicking facilities with shade trees, are not available at most. Parking should be increased at the landing sites, where possible.

7) There is a need for establishments that rent boating equipment and/or provide boating services at a reasonable cost to the general public. The rental of equipment and the provision of services for other water-related activities is highly feasible, such as jetskiing, windsurfing, surf fishing, and scuba diving.

8) There is a need for more publicly accessible docks and fishing piers.

Since the BCD RORP did not utilize its standards for development to assess the need for water-based recreational facilities, that determination can be made by other means which specifically address particular uses by various groups. In developing the RORP, the demand for certain uses is considered an important element in site development. Furthermore, uses vary according to the user groups, which include local residents, county residents from nearby communities, visitors from neighboring counties, in-state and out-of-state day trippers, extended stay visitors, and long-distance travelers. Perhaps, foremost among all considerations in site development is the preference of uses of local residents. After all, they are arguably the group affected most by the development.

A survey questionnaire was administered to residents of the three counties to determine local preferences. Unfortunately, the response rate was very low among all subgroups of the local residents, except high school students. Oversampling of this group did provide useful information regarding recreation preferences, though the data was obviously skewed by the similarity in interests of most high school students. There were 1231 respondents to the survey, which included over 1000 high school students. Of 21 activities listed to determine the respondents present participation (use) and their desire for participation, six involved outdoor, water-based activities: boating (sail or power), ocean swimming, lake or river swimming, fishing, boat ramps, and marinas; seven more involved activities which might be located near a body of water, including biking trails, hiking trails, jogging trails, camping, golf, picnicking and passive areas. The results are shown in Table VIII. (Pool swimming is not included.)

TABLE VIII.

RESPONDENTS CITING PARTICIPATION, AND DESIRE FOR PARTICIPATION
IN VARIOUS RECREATION ACTIVITIES, FROM 1980 RORP

Activity*	Berkeley		Charleston		Dorchester	
	Use	Would Use	Use	Would Use	Use	Would Use
Biking trail	93	185	229	155	54	34
Hiking trail	50	153	78	144	22	31
Jogging trail	76	147	161	113	34	27
Boating	129	83	235	83	44	11
Camping	140	105	227	119	61	28
Golf	33	64	94	70	23	15
Swim, Ocean	152	34	334	19	60	5
Swim, Lake or River	196	37	242	25	80	6
Picnicking	191	53	327	42	69	15
Fishing	250	42	360	39	87	8
Boat Ramp	64	44	111	39	26	11
Marina	22	49	96	57	13	10
Passive Area	83	48	148	33	23	20

Source: Regional Outdoor Recreation Plan 1980.

* The complete list contained 21 different activities.

State Comprehensive Outdoor Recreation Plan (SCORP) 1990
State Comprehensive Outdoor Recreation Plan (SCORP) 1990

Perhaps, a more accurate indication of outdoor recreation preferences is provided by the "South Carolina State Comprehensive Outdoor Recreation Plan of 1990." The purpose of the plan is to: consider outdoor recreation issues relating to the citizens and visitors of South Carolina, examine the State's

recreational resources, analyze demand for recreational opportunities, develop an implementation program to address the identified needs and issues, and identify issues of national importance. As a part of this plan, a study was conducted to determine the amount of participation in and the preferences for various recreational activities among South Carolina residents. There were 2,045 respondents age 12 and older included in the survey, which was administered primarily by telephone to randomly selected individuals within the State.

The percentages of South Carolina residents who participated in a list of traditional outdoor and other types of recreational activities at least once during the previous 12 months was compiled through the survey. There were 43 activities included in the list with 22 involving water use or possibly having a proximity to water. (A list of these water-related activities is shown in Table IX. Swimming in a man-made pool is not included.)

As shown, walking for pleasure or exercise is the activity having the largest percentage of participants with 80.5 percent. In fact, over the years that this survey has been administered, (1979, 1984, and 1990) this activity -- walking for pleasure -- has increased its percentage of participants steadily. Other activities related to water use or possibly occurring near a body of water have shown increases as well, including driving for pleasure and beach swimming. However, others have shown a decrease in the percentage of respondents participating, such as lake/river fishing; and, some have fluctuated up and down between the surveys, like picnicking. (See Table X.)

Another important consideration in characterizing participation in South Carolina is the frequency with which individuals participate in the various types of activities. The need for particular recreational facilities within the State is dependent on both the percentage of the population that participates in an activity and the average number of times that one person participates in a given activity. When the number of times a person participates in an activity is considered, the overall level of participation is remarkably different from the percentages shown in Table IX.

TABLE IX.
STATEWIDE RECREATION PARTICIPATION 1990
AGE 12 AND OLDER

Activity*	Percentage Participating
Walking for pleasure or exercise	80.5
Driving for pleasure	63.9
Picnicking	60.5
Beach swimming	59.3
Visiting historical sites	46.8
Bicycling	43.3
Lake/river fishing	38.6
Jogging/running	31.5
Motorboating	29.8
Lake swimming	29.2
Camping	21.2
Guided nature trail	20.1
Birdwatching	18.0
Saltwater fishing	17.2
Hunting	16.9
Golf	15.9
Waterskiing	14.5
Hiking	13.5
Canoeing, kayaking, rafting	6.9
Sailing	5.3
Jet skiing	3.9
Sailboarding/windsurfing	1.7

Source: South Carolina State Comprehensive Outdoor Recreation Plan 1990.

* The complete list contained 43 different activities.

According to the SCORP 1990, several demographic characteristics affect recreational participation, with age having the largest systematic impact. In general, younger people participate in recreational activities, with participation consistently declining across older subgroups. Furthermore, younger people are generally more likely to participate in a variety of activities that are more strenuous physically. As the State's population continues to age, with the median age projected to increase from 28.1 in 1980 to 36 by the year 2000, recreation planners must fully consider the implications.

TABLE X.

**STATEWIDE RECREATION PARTICIPATION IN 1979, 1984, AND 1990
AGE 18 AND OLDER TOP TEN ACTIVITIES COMPARED**

Year	Percentage Participating
1979	
1. Walking for pleasure	67.9
2. Picnicking	65.2
3. Attending outdoor sporting events	62.8
4. Driving for pleasure	58.5
5. Lake/river fishing	54.2
6. Visiting historical sites, museums, zoos	52.8
7. Beach swimming	47.5
8. Pool swimming	40.3
9. Playing ball	39.3
10. Lake swimming	39.3
1984	
1. Walking for pleasure	70.9
2. Driving for pleasure	64.7
3. Beach swimming	58.4
4. Picnicking	57.1
5. Attending outdoor sporting events	53.1
6. Lake/river fishing	46.9
7. Pool swimming	45.0
8. Jogging/running	40.6
9. Visiting historical sites	40.6
10. Bicycling	38.3
1990	
1. Walking for pleasure	79.7
2. Driving for pleasure	65.5
3. Picnicking	61.1
4. Attending outdoor sporting events	60.5
5. Beach swimming	57.1
6. Visiting historical sites	53.9
7. Pool swimming	53.7
8. Bicycling	37.8
9. Lake/river fishing	37.5
10. Visiting a zoo	36.1

Source: South Carolina State Comprehensive Outdoor
Recreation Plan 1990.

Furthermore, there are significant differences in recreation participation between men and women. Men have higher rates of participation for activities like hunting, fishing, camping, motorboating and waterskiing. Women are more likely than men to participate in activities such as walking for pleasure, picnicking and visiting historical sites.

Significant differences in outdoor recreation participation are found between blacks and whites. A higher percentage of whites than blacks participate in most water-related activities, including beach swimming, motorboating, waterskiing, and saltwater fishing. Additionally, a higher percentage of whites than blacks participate in other outdoor activities, such as camping and hiking.

Lastly, family income affects outdoor recreation participation. A greater percentage of individuals from the higher family income levels have significantly more opportunities to participate in a variety of activities which utilize water resources, particularly golfing, camping, and beach swimming, than individuals from the lower family income levels. However, there were no differences across income levels for several activities utilizing water resources, including walking for pleasure, jogging, fishing and hunting.

The respondents' preferences for outdoor recreational activities has been compiled, also. Most of the activities listed either involve water resources or possibly occur near some water resource. (See Table XI.)

The SCORP 1990 included a brief discussion on non-resident outdoor recreation participation using information from 1987-88 Out-of-State Visitors Survey and the 1985-87 Public Area Recreation Visitors Survey (PARVS) compiled by SCPRT. In summary, visitors are more likely to participate in walking, beach and lake swimming, camping, visiting historic sites, and seeing the State's other sites. Thus, the demand for outdoor recreation opportunities by visitors is largely for those features which make South Carolina unique and an attractive place to vacation -- its beaches, lakes, rivers, historical attraction and scenic areas.

TABLE XI.
PREFERRED OUTDOOR ACTIVITIES 1979, 1984 AND 1990⁴

Recreational Activity		1990	1984 ¹	1979
1.	Playing ball (softball, football, basketball, volleyball, baseball)	22.6	14.3	11.4
2.	Walking for pleasure	11.2	4.4	4.4
3.	Fishing	10.3	13.7	14.3
4.	Swimming	7.6	18.3	14.3
5.	Golf	6.4	5.2	3.5
6.	Tennis	5.2	5.4	9.2
7.	Gardening	4.5	3.8	5.8
8.	Hunting	4.2	2.0	3.3
9.	Motorboating	4.1	3.5	2.9
10.	Camping	3.8	7.8	8.7
11.	Bicycling	2.1	0.9	1.3
12.	Hiking	1.5	*	*
13.	Jogging	1.5	*	*
14.	Picnicking	1.3	3.3	4.4
15.	Horseback riding	1.2	1.3	0.8
16.	Waterskiing	1.1	2.3	2.1
17.	Others	11.4	5.0	*

Source: South Carolina State Comprehensive Outdoor
Recreation
Plan 1990.

* Comparable information not available.

¹ The data presented for this question in the 1984 report do not sum to 100%. One possible reason for this is that those who responded "don't know" or said they had no preference were included in the calculations, but not reported in the results.

Finally, outdoor recreation issues in South Carolina were identified through various methods and prioritized as follows:

- 1) Increased protection of natural resources (beaches, rivers, wetlands, etc.)
- 2) Continue to provide a variety of neighborhood, community, state, and national recreation areas.
- 3) Improvements to existing recreational facilities.
- 4) More public recreational access to beaches, rivers, and lakes.
- 5) More recreational trails for hiking, biking, canoeing, or nature study.
- 6) A state system of scenic highways with limited development and natural views.
- 7) More parks and open space in urban areas, such as along river corridors.

Additional issues were identified but not prioritized as follows:

- More funding/grants for planning, acquisition, and development.

- More funding for operation, maintenance and rehabilitation.

- Acquisition/preservation of critical wildlife and fisheries habitat of sufficient size to provide for adequate management into the future.

- Acquisition, preservation, and protection of endangered and significant cultural and historic resources.

- Public environmental and cultural education, including resource management and interpretation.

- Overall clean environment: air water, groundwater, etc.

- Conflicting trail uses of off-road vehicles (trucks, 3- or 4-wheelers, motorcycles, etc.) bicycles, horseback riders, and hikers.

- Set aside open areas and greenspaces for the future.

- Cost free recreation areas.

-- Barrier-free facilities and programs for the handicapped.

-- More recreation programs for teenagers/summer youth programs.

-- Rural recreation planning.

-- Regional recreation planning and coordination.

-- The activities most expected to increase in participation or demand before the end of the century (according to recreation providers and others represented in the study) include: walking, bicycling, guided nature walks, golf, fishing, canoeing/kayaking/rafting, and guided adventure trips.

Long-Range Planning Study for Charleston County

A needs assessment study for the Parks and Recreation Commission (PRC) of Charleston County was conducted in 1991 using a survey questionnaire administered to adult residents living in the county. The questionnaire was specifically designed for this needs assessment and incorporated questions focusing on residents' socio-economic characteristics, participation in selected recreational activities, use of area park facilities, opinions about the mission of the PRC, level of support for 19 development options, and willingness to travel to participate in various activities. Further, questions were asked to determine the best method(s) to reach residents with promotional material and to determine their degree of agreement with 12 policy-related statements. A random sample of 2,550 residents received the questionnaire via first class mail; there were only 571 completed and returned.

The results of the survey led the researchers to conclude that county residents "decidedly associate the PRC with the mission of protecting the county's natural resource base and providing passive outdoor recreational activities." Further, with about three-fifths of the residents supporting the preservation mission over recreation, the researchers concluded that "the PRC must retain its mission to be oriented toward its natural resource base and provide recreational amenities in a form and fashion consistent with those resources."

In the study, residents' preferences for park and recreation developments were ranked by their level of support with beach access, trails, picnic areas and nature centers emerging as the highest priorities. (See Table XII.) Similarly, respondents showed a reasonably strong willingness to

travel further distances to participate in activities associated with their use. (See Table XIII.) Overall, there was generally strong support for amenities that were water-based, including beach access, fishing, piers and water parks. Developments least supported by the respondents were RV camping, meeting/convention facilities and golf.

TABLE XII.

**ATTITUDES OF CHARLESTON COUNTY RESIDENTS
TOWARD VARIOUS OPTIONS FOR RECREATION DEVELOPMENT**

Option	Percentage				
	Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
Ocean Pier	39.4	30.4	24.2	3.6	4.9
Golf Course	18.2	19.4	38.2	11.7	12.5
Hike/Bike Trail	40.1	42.5	14.1	1.3	2.0
Picnic Shelter	37.9	42.7	17.0	1.8	0.6
Beach Access	55.1	30.3	11.3	2.4	0.9
Nature Center	34.9	47.0	16.5	1.3	0.4
Rental Cottages	27.6	33.4	29.6	5.8	3.6
Water Park	38.1	32.6	22.4	4.6	2.4
Scenic Vistas	33.1	39.6	21.9	4.1	1.3
Botanical Garden	26.4	41.4	26.2	4.2	1.8
Boat Launches	39.0	26.0	28.4	5.1	1.5
Tent Camping	22.3	33.3	38.5	4.6	1.3
Outdoor Programs	33.2	46.2	19.2	0.9	0.5
Marinas	17.7	26.0	39.5	9.8	7.0
Meeting Facility	15.4	21.4	44.7	11.4	7.1
RV Camping	11.1	24.8	47.0	8.9	8.3
Equestrian Park	14.0	24.3	47.4	7.5	6.7
Picnic Areas	37.5	45.2	15.0	1.6	0.7
Amphitheater	23.4	33.9	34.1	5.5	3.0

Source: Charleston County P.R.C.

Respondents indicated their attendance at county parks was moderate, with at least one visit by a family member to Folly Beach, James Island or Palmetto Islands parks during the previous year. Beachwalker Park, however, had more than 70

percent report no visitation. Unsurprisingly, community parks were reported as receiving very frequent use. Relatively few respondents reported visiting the Francis Marion National Forest during the year, though over one-third did report a visit by a member of the household. (See Table XIV.) On the basis of households, the two most popular recreational activities were walking for pleasure and attending festivals and special events. (See Table XV.)

TABLE XIII.

**ATTITUDES OF CHARLESTON COUNTY RESIDENTS
TOWARD WILLINGNESS TO TRAVEL FOR VARIOUS RECREATIONAL ACTIVITIES**

Activity or Amenity	Percentage				
	1 Mile or less	2 - 5 Miles	6 - 10 Miles	11 - 20 Miles	Over 20 Miles
Fishing	12.0	15.6	32.7	28.7	11.0
Golfing	34.5	13.9	23.4	18.2	10.0
Hiking/Biking	11.4	30.8	31.6	18.5	7.7
Picnic Shelter	7.4	22.3	36.1	24.3	9.9
Beach Visit	4.9	12.8	27.5	34.2	20.4
Nature Center	4.2	15.5	32.3	28.6	19.4
Rental Cottages	8.8	7.9	18.9	23.9	40.6
Water Park	9.3	12.7	28.3	30.4	19.2
Scenic Vistas	8.6	16.1	23.0	25.7	26.6
Botanical Garden	7.3	15.4	27.0	26.1	24.3
Boat Launches	15.2	14.6	27.3	25.4	17.5
Tent Camping	13.4	10.3	22.3	23.4	30.6
Outdoor Programs	7.4	18.1	37.0	21.3	16.1
Marinas	20.0	17.0	29.3	20.2	13.5
Meeting Facility	20.8	18.6	32.0	18.9	9.7
RV Camping	23.9	9.0	23.9	18.7	24.6
Equestrian Park	22.7	13.0	28.3	23.9	12.1
Picnic Areas	6.8	19.3	34.4	24.1	15.3
Amphitheater	12.4	13.5	30.9	27.6	15.7

Source: Charleston County P.R.C.

TABLE XIV.

**ATTENDANCE BY A HOUSEHOLD MEMBER
TO PARKS IN CHARLESTON COUNTY AREA**

Park	Percentage				
	Never	Once	2-5 visits	5-10 visits	More than 10 visits
Folly Beach	45.4	20.0	24.5	5.3	4.9
James Island	49.2	22.1	21.0	3.8	4.0
Palmetto Isl.	42.1	23.1	24.7	4.2	6.0
Beachwalker	73.4	13.3	7.8	3.1	2.4
Nat. Forest	61.5	16.9	14.2	3.4	4.0
Charlestowne Landing	31.5	27.7	25.0	9.2	6.7
Community	19.9	9.1	39.6	12.4	19.0
Water Park or Pool	32.5	14.4	31.0	10.5	11.6

Source: Charleston County P.R.C.

TABLE XV.

RECREATION PARTICIPATION IN CHARLESTON COUNTY

Activity	Percentage				
	Never	Once	2-5 times	5-10 times	More than 10 times
Walked/Hiked	17.8	6.5	27.1	14.6	34.0
Fished/Crabbed	35.6	9.5	23.1	10.6	21.1
Festival/Event	18.5	17.9	44.0	10.5	9.1
Birdwatching	23.7	9.9	24.3	11.0	31.2
Canoeing	56.3	16.5	20.5	3.8	2.9

Source: Charleston County P.R.C.

In identifying constraints to participating in recreational opportunities offered by the PRC, respondents primarily cited two reasons: unawareness of a facility's location and the inconvenience of a facility's location. The awareness factor varied greatly among sites with Folly Beach Park having the highest level of recognition and Beachwalker Park having the lowest. (See Table XVI.)

TABLE XVI.

CONSTRAINTS TO VISITATION OF PARKS IN CHARLESTON COUNTY

Park	Percentage					
	Did Not Know	Not Convenient Location	Unaware of Activity	No Interest	No Transportation	Other
Folly Beach	14.9	29.9	21.5	22.6	3.1	8.0
James Island	31.5	25.7	23.6	8.6	3.1	7.5
Palmetto Isl.	25.7	36.1	15.3	11.2	4.0	7.6
Beachwalker	53.2	19.6	10.9	10.3	2.1	3.9

Source: Charleston County P.R.C.

From the analysis of this survey, over twenty recommendations were offered by the research firm to the Charleston County PRC. The following recommendations possibly have implications for outdoor water-related recreational opportunities in the BCD region:

- 1) Retain the mission of protecting the county's natural resources.
- 2) Develop a separate promotional strategy to communicate to residents how the resource base is being managed.
- 3) Capitalize on the theme of eco-tourism.
- 4) Develop a nature center.

- 5) Provide convenient and secure boat launching sites for the county's numerous boaters who trailer their vessels.
- 6) Further examine the feasibility of developing a golf complex [for public use].
- 7) Pursue development of a fishing pier.
- 8) Expand and/or upgrade picnic facilities.
- 9) Include an expanded trail system in all development strategies.
- 10) Special events should be expanded for both residents and visitors.
- 11) The P.R.C. staff should expand into the program area of natural and cultural resource interpretation.
- 12) More efforts should be directed toward providing recreation programs and amenities in parks, particularly for older adults.
- 13) Expand promotional efforts to better reach and inform younger adults about the P.R.C., its facilities and programs.
- 14) Assess the role of tourist participation in P.R.C. activities, and study this group.

Summary

Taken together, these three studies are very helpful in establishing a starting point for assessing the need for water-related recreational opportunities in the BCD region. Though the focus of each study involved more than the singular issue of outdoor water-related recreation, it is clear that the region's economic and social sustainability revolves around its water resources. Water is the region's dominant feature; unquestionably, it is its most important resource for a multitude of reasons.

Further, these studies indicate that in the next few years the region will experience tremendous growth. This growth will increase the demand among competitive interests to use the region's water resources. As always, one of its primary uses will be recreational activities. Current planning efforts must balance the dynamics of economic and social growth with the static requirements of the natural environment. Otherwise, many uses will become less productive or less enjoyable as the

resource is degraded beyond immediate repair. Therefore, recreation development must be a part of the solution for successful resource management, not a part of the problem.

One important consideration in developing outdoor water-related recreational opportunities for the region is finding the means to evenly distribute access and utilization to all residents within various socioeconomic groups. Attempting to achieve this goal could reap huge dividends above the initial investment, as new and old user groups become partners in maintaining the integrity and productiveness of the region's coastal waters ecosystem. It is truly a proposition the region and State cannot afford to dismiss. Specifically, these studies point to the need for amenities and activities that would facilitate public access and utilization, including fishing piers, picnicking areas, open spaces, trails, educational programming, and special events. Even more, the studies indicate a need to remove the barriers to participation, particularly impediments created by socioeconomic differences.

Survey of BCD Residents

To discover the public goals regarding water-related recreation, residents in the BCD region were surveyed. This survey was administered by telephone to a systematically-drawn sample of residents listed in the Greater Charleston telephone directory (which covers the three county area). All calls were made on Monday through Thursday between 5:00 - 7:30 p.m. from October 25 to December 7, 1995. There were over 1400 calls attempted with 976 answered. However, only 401 (41%) of those answering responded to the questionnaire. (See Appendix, Item 3-A.)

Additionally, the survey instrument was adapted for mail distribution by adding the proper instructions to each question to allow respondents to self-administer the questionnaire. In early November 1995, 572 questionnaires were mailed to residents in the tri-county area (with a self-addressed and stamped return envelope enclosed). The addresses for the sample were systematically selected from a telephone directory database of the Greater Charleston area. The database is accessible through the Clemson University library. There were 94 surveys returned, with 91 useable. For both surveys, the interviewees were not identifiable by their responses. (See Appendix, Item 3-A and 4-A.)

Telephone Survey

Demographically, in the telephone survey there were 73 (18.3%) respondents from Berkeley County, 282 (70.6%) from Charleston County, and only 41 (10.3%) from Dorchester County. No county was identified on five questionnaires. Male respondents totaled 170 (42.4%) with females totaling 231 (57.6%). The average age of the respondents was 42.7 years old, with the mode 45 years old (17 respondents). Further, there was an average of 2.9 persons per household, with a mode of 2 persons per household (150 responses).

Question 1: When did you last participate in a recreational activity that either involved a body of water or was near a body of water in Berkeley, Charleston, or Dorchester counties?

In responding to the first question (#1), on the average most respondents had participated in a recreational activity involving a local body of water within the past 358 days. (All time estimations by respondents were converted to days for consistency in calculations.) Almost one-fourth of the respondents had participated in an activity within the past week with 93 (23.3%) indicating 1-7 days. In fact, 20 respondents (9.0%) indicated only one day. There were 193 respondents (48.4%) who participated in a recreational activity involving a local body of water within the past 30 days, and 260 (65.2%) who participated in such an activity in the past three months.

Question 2: What is the name of the body of water?

In the second question (#2), the body of water cited most often was the Atlantic Ocean, with 142 respondents (35.4%) indicating that body of water. Charleston Harbor was cited by 41 respondents (10.2%), the Ashley River by 27 (6.7%), the Cooper River by 21 (5.2%), Stono River by 17 (4.2%), Lake Moultrie by 10 (2.5%), Lake Marion by 10 (2.5%). No other body of water was cited by more than eight respondents. In all 43 different bodies of water were named. Surprisingly, at least fifty respondents could not identify the body of water by its correct name; some attempted to identify the body of water by naming a location near it.

Question 3: In which county is it located?

This inability to identify the body of water carried over to the next question (#3). There were 42 respondents who could not identify the county for the body of water used. However, 301 (75%) stated that the body of water was located in Charleston County, 46 (11.5%) identified Berkeley County, and

eight (2.0%) identified Dorchester.

Question 4: What was the activity?

In question #4, the respondents were asked to identify the recreational activity which led to using the body of water. The activity cited most often was fishing with 67 (16.7%) providing this response. Swimming followed closely behind having 59 responses (14.7%). Walking for pleasure or exercise was cited by 56 respondents (14.0%); boating by 48 (12.0%); and some form of shellfish harvesting (crabbing, shrimping, etc.) by 33 (8.2%); Simply enjoying the beach was sufficient activity for 14 respondents (3.5%); picnicking, 10 (2.5%); sailing, 9 (4.7%); skiing, 7 (1.7%); and canoeing, running, and surfing, 4 (1.0%) each. Three each cited camping, concerts, cruises, or a special event, while jetskiing, kayaking or visiting the area was cited by two each. Altogether, over 40 different activities were cited.

Question 5: How often do you participate in a recreational activity that either involves a body of water or occurs near a body of water in the counties of Berkeley, Charleston, or Dorchester?

Question #5 asked the respondents to identify their level of participation in outdoor recreation involving water-related activities. There were 134 respondents (33.4%) who stated they frequently participated in such activity; 123 (30.7%) stated they occasionally participated; 99 (24.7%) claimed they rarely participated in this type of activity; and, 45 (11.2%) stated they never participated in outdoor water-related activities.

Question 6: Do you participate in any of the following recreational activities using a body of water in the tri-county area? (A list of activities is read to the respondent who answers "yes" or "no.")

With question #6, the respondents were asked to identify their involvement with specific water-related activities. Both walking or jogging on the beach and visiting a historic plantation or garden received the most affirmative answers from respondents with 269 (67.3%) each. Following closely, beach swimming was indicated by 246 (61.3%) respondents, and sightseeing/nature observation was indicated by 239 (59.7%). The activities and the number of respondents identifying each are listed in Table XVII. In many aspects, this list is quite similar to the list of activities identified through the statewide survey of outdoor recreation participation shown in Table IX. Perhaps, the few dissimilarities are attributable to

the focus on water-related activities in this survey and the general influence of the water resources of the BCD region on the area's outdoor recreational opportunities.

Question 7: Have you ever participated in a recreational activity involving a wetland, swamp or marsh in the tri-county area?

Thirty-five percent (35%) of the respondents (140) stated they had utilized a wetland resource in a recreational activity. Over one-third (52) had walked or hiked through a wetland area for exercise, nature observation, educational purpose or environmental cleanup. Sixteen hunted in these areas, and twenty-five fished, shellfished there. Finally, canoeing was identified by at least ten respondents.

Question 8: Have you ever experience any problems when trying to utilize these natural areas -- the waters or wetlands -- for your recreational activities?

Only 72 (18%) stated they encountered a problem attempting to recreate in these areas. Lack of access and crowding were a recurrent theme in the complaints. (See Appendix 3-B.)

Question 9: Would you like to offer any comments to include in this survey regarding the availability of recreational activities or facilities near the creeks, rivers, lakes, or ocean in the tri-county area?

Similar to the preceding question, access difficulties were identified in question #9. On one hand, several respondents identified the need to keep the public areas and waters clean, while others complained about the maintenance problems found at some sites. On the other hand, some respondents offered encouraging comments regarding the availability of access points, the good maintenance of facilities, and the dedicated people who managed the recreational sites. In all, 120 (30%) respondents offered comments to this question. (See Appendix 3-C.)

TABLE XVII.
RECREATION PARTICIPATION IN THE BCD REGION
FALL 1995 TELEPHONE SURVEY

Activity	Responses	Percentage
Walking or jogging on the beach	269	67.3
Visiting a historic plantation/garden	269	67.3
Beach swimming	246	61.5
Sightseeing/nature observation	239	59.7
Fishing in a lake or river	218	54.5
Motorboating on a lake or river	202	50.4
Cruises in the Harbor or on a river	195	48.7
Walking or jogging near a river/lake	189	47.2
Picnicking along the shore	180	45.0
Shellfishing (shrimp, crabs, oysters)	157	39.2
Lake or river swimming	131	32.7
Waterskiing	105	26.1
Camping near a lake or river	103	25.7
Bicycling along the shore	89	22.2
Surf fishing	80	20.0
Camping near the ocean	71	17.7
Canoeing, rafting, kayaking	64	16.0
Jetskiing	56	14.0
Sailing	52	13.0
Windsurfing	11	2.7
Surfing	5	1.2
Scuba diving	4	1.0

Golfing	3	0.7
Hunting	2	0.5
Other	29	7.2

N = 401

Summary

Two of the more popular activities involve a resource located only in Charleston County, walking along the beach and beach swimming. Not surprisingly, the lack of public access and crowding were the problems identified most often.

Survey of Outdoor Recreation Providers

A list of outdoor recreation providers in the BCD region was compiled prior to developing the inventory of site and facilities, as discussed earlier. A total of 24 providers were identified. (See Appendix, Item 5-A.) (The towns of St. George and Harleyville in Dorchester County were contacted despite falling outside the boundary of the CHP area, but they did not return the questionnaire. In addition, the South Carolina Wildlife and Marine Resources Division was included because it provided information for the inventory on the public boat landings in the tri-county region.)

In September, a letter was sent to each provider asking them to verify the information about each site and facility in their service area as listed in the inventory. (See Appendix, Item 5-B.) Additionally, the providers were asked to respond to a survey questionnaire enclosed. (See Appendix, Item 5-C.) A second letter and questionnaire was sent in mid-October to any provider who had not responded at that point. Eventually, 14 of the 24 responded, with 13 returning a completed questionnaire. A summary of the responses follows:

1. The Charleston Harbor Project recently compiled a list of sites and facilities used for outdoor water-related recreational activities. Please review the list and make any additions or deletions as needed. Give a brief explanation for any deletion indicated.

Each respondent made minor changes to the information in the inventory for various sites and facilities within their service area.

2. Have you assessed the condition of these sites and facilities in the past five years? If yes, please give the approximate date.

Nine respondents indicated that an inspection to assess the condition of the sites and facilities occurred within the past year, and two indicated within the past 3-5 years. One indicated that no inspection had occurred and another did not understand the question.

3. Which of these sites or facilities need immediate repair or improvement?

Six respondents indicated specific boat landings that needed repairing in their service area, and two of those six pointed out the limited parking at the sites. One respondent discussed the repairs needed in park areas, in particular the costs associated with these repairs. Two respondents said that no repairs were needed at the sites, and two other said that the repairs needed were unknown. Finally, one respondent said that repairs were handled when needed, and one other said that either local government, state government or private entities effectuated all repairs.

4. Are there plans to expand or improve any of these sites? If yes, what is the date for completing the work at each site?

Seven of the providers indicated that plans have been made to expand or improve the sites (relative to the responses to question 3 above). In fact, Charleston County PRC provided a prioritized list for repairs and improvements to county boat landings for a five-year period, with cost projections for each site. This list from Charleston County PRC included plans to repair boat landings indicated by the SC Department of Natural Resources and the Town of Folly Beach on their questionnaires. The other four having plans for repairs involved park areas with amenities.

Three other respondents indicated they did not know of any plans, but they did not indicate any sites or facilities within their service area which needed repairing in question 3 above. Last, three respondents stated that no plans have been made, and they did not list any site or facility needing repair in question 3.

5. Is there a need to build or develop new sites and facilities in you area? If so, why (i.e., population growth in the area, increased use by tourists, general overuse, or other factors)?

Eight of the respondents stated that there is a need to build or develop new sites and facilities, with five of the eight giving population growth or overuse as the reason. Three respondents stated that expansion or new construction is determined by other parties, and two did not respond to the question.

Has any information been gathered to determine the need for new sites and facilities? Please identify the source of the information.

Four responded that information had been gathered and indicated the source of the information. Two others responded that some information had been gathered, but they did not identify the source. Another two stated that no information had been gathered, though one had claimed earlier a need for new campgrounds on the Berkeley County side of Lake Moultrie. One respondent indicated that other agencies were more appropriate for answering the question. Finally, four did not respond to the question at all.

6. Have plans been made to build or develop new sites or facilities in the area? If so, where?

Four responded that new sites and facilities are planned and specified the locations. One other indicated that Charleston County should answer the question, and another respondent did not know. Five indicated there were no plans to build or develop new sites and facilities. Two did not respond.

7. Would a current study be helpful regarding the need for outdoor water-related recreational opportunities in the area?

Seven responded with "yes" only, and one other wrote only "possibly." Another indicated that Charleston County was addressing the situation, and one responded that some residents needed information because they wanted a community pool. Two failed to respond to the question, and only one indicated that a study would not be helpful.

Summary

Overall, there appeared to be a legitimate interest among the providers in improving the quality of outdoor, water-related recreational opportunities. However, the depth of each respondent's interest is relative to the amount of responsibility for the issue each perceived. Clearly, those having a greater degree of involvement with recreation development perceived the need to improve existing sites and facilities, find new areas for development, and identify informational and financial resources.

An important consideration derived from this survey is the absence of a county sponsored recreation program in both Berkeley and Dorchester counties, which has hampered the development of outdoor recreation in areas outside of city-owned or state-held lands. Furthermore, the several small communities in the rural areas of these counties cannot afford such development.

Conclusions and Recommendations

From developing an inventory, reviewing previous studies, and administering a survey questionnaire, it seems that the majority of residents in the BCD region are satisfied with the availability of water-related recreation opportunities in their area. However, the level of satisfaction may become tenuous, particularly with the region's steady growth in population which eventually will lead to overstressed recreational resources and facilities. Discontent among user groups is sure to follow. It is important, therefore, to address the potential conflicts in advance.

Some argue that with the closure of the Charleston Naval Base and the possible closure of other military-related facilities, there will be a net loss of people from the area. Already, the closure has meant the loss of over 22,000 well-paying jobs. Such shrinkage in the employment base can expectedly lead to economic migrations from the area.

Current statistics on the Charleston economy show that the area is surviving very well without the military dollars. Existing industries like tourism have prospered in recent months; new industries have located in the region; and, various federal economic stimulus packages -- for areas like Charleston suffering the loss of military installations -- have provided fodder for the region to winter what is hoped only a brief lapse into an economic doldrums.

Regardless of economic fluctuations, the BCD region must expect growth, and with that, an increased demand for various outdoor, water-related recreational facilities and services. Foremost, current planning efforts must ensure the stability and vitality of the natural resource base. Otherwise, all uses will become less productive or less enjoyable as the resource is degraded beyond immediate repair. Therefore, recreation development must incorporate strategies of preservation and conservation to achieve success in managing the highly-valued water resources.

Coupled with measures to protect the resource base, steps must be taken to evenly distribute access and utilization to all residents across various socioeconomic groups. Indeed, that is a tall order, but unavoidable if preservation and conservation efforts are given any hope for success. All user groups must become partners in maintaining the integrity and productiveness of the region's coastal waters ecosystem. It is truly a proposition the region and State cannot afford to dismiss. Specifically, this study points to the need to develop amenities and activities that facilitate public access and utilization, such as fishing piers, picnicking areas, open spaces, trails, educational programming, and special events. Even more, the study indicates a need to remove the barriers to participation, particularly impediments created by socioeconomic disparities.

Opportunities to initiate such an effort are readily available in less dense or underutilized areas, such as the area of Dorchester County outside the Summerville corridor, the area of western Charleston County starting at the Edisto River and moving east, and the area of Berkeley County northeast of Highway I-26 to the Francis Marion National Forest. There appears to be a significant amount of untampered areas, with wetlands and creeks, that beg for limited usage. Additionally, as the incorporated areas of towns and cities expand, such as Charleston's annexation of Daniel Island and the Cainhoy Plantation tract along the Wando River, there must be a commitment by the municipalities to provide public access to nearby water resources for recreational purposes. This can be accomplished by several means, including dedication by developers, land swaps or fee simple purchase.

While the study calls for further development of recreational opportunities in the BCD region, those activities which do not require resources that are located solely in Charleston County, such as the beach, should be developed away from the Greater Charleston area. There are numerous water-related activities that the resources of the CHP area support. The prevention of both conflict between user groups and the

degradation or depletion of the resource supply is imperative.

To uncover these areas and determine the activities, facilities, and services required to develop them for public and private recreational opportunities, two immediate steps are needed: 1) close examination and discussion of this report by a focus group composed of experts, local officials, area residents, and other interested parties to develop recommendations and a plan of action for water-related recreation development, including the identification of specific sites, sources of funding, and a schedule for implementation; 2) the elevation of recreation development, particularly outdoor water-related uses, among the priorities of decision makers in the CHP area.

1... By Census definition, the urban population is composed of persons living in densely populated areas and in places of 2,500 or more outside urbanized areas. All persons living outside urbanized areas of less than 2,500 or in the open countryside are classified as rural. Source: South Carolina Statistical Abstract.

2... Poverty statistics are based on a definition originated by the Social Security Administration in 1964 and subsequently modified by Federal interagency committees in 1969 and 1980. Poverty thresholds are revised annually to allow for changes in the cost of living as reflected in the Consumer Price Index. The average poverty threshold for a family of four persons was \$7,412 in 1979 and \$12,674 in 1989.

3... South Carolina Budget and Control Board. South Carolina Statistical Abstract 1994.

1... Since data for 12-17 year olds were not available for 1979, these comparisons were made of 18 years of age or older. The differences in preferences across years reported here are likely due in part to the different times of year in which these surveys were conducted. The 1979 and 1984 surveys were conducted in the summer, while inter-viewing for the 1990 survey occurred in late October and early November.

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Appendix*

3-A Survey questionnaire administered to BCD residents

****Remaining Appendices available upon request from SC DHEC-OCRM,
1362 McMillan Ave., Suite 400, Charleston, SC 29405***

1-A Letter to recreation providers in the BCD region

1-B Follow-up letter to recreation providers

2-A Structure of inventory database file

2-B List of all inventory entries

2-C Complete database file of the inventory

3-B Problems cited by respondents to the survey questionnaire

3-C Comments offered by respondents to the survey
questionnaire

Appendix 3-A**Survey questionnaire administered to BCD residents****Survey of Recreation Providers**

1. The Charleston Harbor Project recently compiled a list of sites and facilities used for outdoor water-related recreational activities. Please review the list and make any additions or deletions as needed. Give a brief explanation for any deletion indicated.

2. Have you assessed the condition of these sites and facilities in the past five years? If yes, approximate date.

3. Which of these sites or facilities need immediate repair or improvement?

**4. Are there plans to expand or improve any of these sites?
If yes, what is the date for completing the work at each site?**

5. Is there a need to build or develop new sites and facilities in your area? If so, why (i.e.,

population growth in the area, increased use by tourists, general overuse, or other factors)?

Has any information been gathered to determine the need for new sites and facilities? Please identify the source of the information.

6. Have plans been made to build or develop new sites or facilities in the area? If so, where?

7. Would a current study be helpful regarding the need for outdoor water-related recreational opportunities in the area?

(You are not required to provide the information below. It is helpful, however, in responding to your questions and comments.)

Name: _____

Title: _____

Office
Address: _____

Phone: _____

1... By Census definition, the urban population is composed of persons living in densely populated areas and in places of 2,500 or more outside urbanized areas. All persons living outside urbanized areas of less than 2,500 or in the open countryside are classified as rural. Source: South Carolina Statistical Abstract.

2... Poverty statistics are based on a definition originated by the Social Security Administration in 1964 and subsequently modified by Federal interagency committees in 1969 and 1980. Poverty thresholds are revised annually to allow for changes in the cost of living as reflected in the Consumer Price Index. The average poverty threshold for a family of four persons was \$7,412 in 1979 and \$12,674 in 1989.

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